

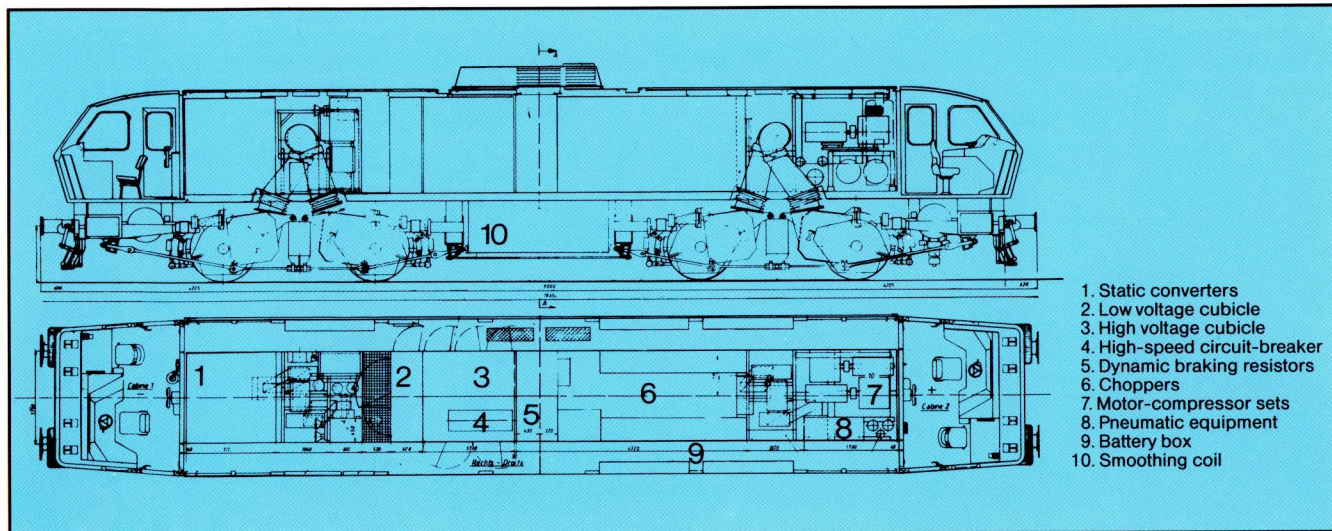


FORMERLY LA BRUGEOISE ET NIVELLES-BELGIUM

Main Line Electric Locomotive Type 11

Dual-voltage locomotive for both freight
and passenger rapid transit





1. Static converters
2. Low voltage cubicle
3. High voltage cubicle
4. High-speed circuit-breaker
5. Dynamic braking resistors
6. Choppers
7. Motor-compressor sets
8. Pneumatic equipment
9. Battery box
10. Smoothing coil

MAIN CHARACTERISTICS

- | | | | |
|-----------------------------|------------|----------------------------|----------------------|
| - Track gauge | : 1,435 mm | - Half-worn wheel diameter | : 1,215 mm |
| - Axle arrangement | : BoBo | - Gear ratio | : 1 : 3.742 |
| - Number of traction motors | : 4 | - Rated voltage | : 3 kV - 1.5 kV d.c. |
| - Total tare weight | : 84 T | - Clearance | : UIC 505 |
| - Maximum speed | : 160 km/h | | |

	One-hour rating	Continuous rating
- Power (acc. to IEC)	: 3,310 kW	3,125 kW
- Rated speed	: 71.8 km/h	73.5 km/h
- Tractive effort at wheels	: 161.8 kN	149.2 kN
- Maximum starting effort	:	234 kN
- Effort at 160 km/h	:	44 kN
- Maximum catenary current demand	:	3 kV : 1,300 A 1.5 kV : 2,600 A

TECHNICAL FEATURES

Dual-voltage locomotive

- The locomotive type 11 makes the link between Belgium and The Netherlands.
- It is able to operate with a line voltage of 3 kV or 1.5 kV d.c.

Traction

- Maximal adhesion due to transmission of the tractive effort via a low-slung traction link.
- Tractive effort and speed regulation by means of thyristor choppers.
- Reduced force between wheels and track through use of fully suspended motors and elastic lateral suspension of axles.

Braking

Dynamic braking electronically coupled with pneumatic braking.

Aluminium

Non-load-bearing parts such as doors, partitions, facings and roofing are made of extruded aluminium

Modularity

The modular design of the cabs and of the electric and pneumatic equipments located in the body reduces maintenance time.

The integrated pneumatic panel allows units to be fitted and removed without interfering with piping.

Driver safety and comfort

Ensured by : shock absorber, ergonomic driving position, heating and ventilation with air renewal, bogie suspension.